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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,315	02/05/2001	Albertus Van Zanten	502-010097-US(PAR)	3383

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EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2633	7

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/777,315	ZANTEN ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 February 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(f) BRIEF SUMMARY OF THE INVENTION.
(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(h) DETAILED DESCRIPTION OF THE INVENTION.
(i) CLAIM OR CLAIMS (commencing on a separate sheet).
(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

3. Claim 7 is objected to because of the following informalities: in claim 7, the phrase "the said housing" should be changed into --the housing--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Jiang et al (US Patent No. 6,213,651).

Regarding claim 1, referring to Figure 1, Jiang discloses electro-optical connector module (i.e., fiber optic module 100, Fig. 1) comprising a connection part (i.e., optical block 102, Fig. 1), at least one optical transmitter circuit and/or optical receiver circuit (i.e., a transmit printed circuit board PCB 106 and a light transmitter 110, and a receive

printed circuit board PCB 108 and light receiver 111, Fig. 1) and at least one electro-optical converter (i.e., light transmitter 110 and light receiver 111, Fig. 1) for respectively converting electrical signals into optical signals or vice versa, characterized in that the module (i.e., fiber optic module 100) further comprises at least two substantially flat and substantially parallel electrically insulating sheets (i.e., transmit printed circuit board PCB 106 and receive printed circuit board PCB 108, Fig. 1) on which the transmitter circuit and/or receiver circuit and the converter are mounted (col. 3, lines 39-67 and col. 4, lines 1-55).

Regarding claim 2, Jiang further teaches the electro-optical connector module (i.e., fiber optic module 100, Fig. 1) comprising at least one optical transmitter circuit (i.e., a transmit printed circuit board PCB 106 and a light transmitter 110, Fig. 1), at least one optical receiver circuit (i.e., a receive printed circuit board PCB 108 and light receiver 111, Fig. 1) and at least two electro-optical converters (i.e., light transmitter 110 and light receiver 111, Fig. 1) for respectively converting electrical signals into optical signals and vice versa, wherein the optical transmitter circuit and a first converter are mounted on a first sheet (i.e., printed circuit board PCB 106, Fig. 1) and the optical receiver circuit and a second converter are mounted on a second sheet (i.e., printed circuit board PCB 108, Fig. 1)(col. 3, lines 39-67 and col. 4, lines 1-55).

Regarding claim 6, Jiang also teaches that the electro-optical connector module (i.e., fiber optic module 100, Fig. 1) comprises a shielding (i.e., shielded housing 119, Fig. 1) (col. 4, lines 28-55, col. 8, lines 60-67 and col. 9, lines 1-24).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 3-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang et al (US Patent No. 6,213,651).

Regarding claim 3, Jiang discloses all the aspects of the claimed invention as set forth in rejection claim 1 above except fails to teach the sheets are connected by means of a flexible sheet material. However, it is well known in the art that two or more rigid sheets attached to a flexible substrate perform semi-rigid printed circuit boards or PCB's and form an integral whole and the components can be attached to the sheets with a maximum of space is available and the sheets can subsequently be folded to minimize the size of the device. Therefore, it would have been obvious to obtain the sheets are connected by means of a flexible sheet material in order to allow the components can be attached to the sheets with a maximum of space is available and form an integral whole and minimize the size of the device.

Regarding claim 4, Jiang differs from claim 4 in that he does not specifically teach a least three substantially flat and substantially parallel electrically insulating sheets that are substantially square or rectangular and wherein the first and the second sheet are connected to adjacent sides of the third sheet by means of a flexible sheet

material. However, it is well known in the art that two or more rigid sheets attached to a flexible substrate perform semi-rigid printed circuit boards or PCB's and form an integral whole and the components can be attached to the sheets with a maximum of space is available and the sheets can subsequently be folded to minimize the size of the device. Therefore, it would have been obvious to obtain a least three substantially flat and substantially parallel electrically insulating sheets that are substantially square or rectangular and wherein the first and the second sheet are connected to adjacent sides of the third sheet by means of a flexible sheet material in order to allow the components can be attached to the sheets with a maximum of space is available and form an integral whole and minimize the size of the device.

Regarding claim 5, Jiang differs from claim 5 in that he does not specifically teach a component for optical input and/or output is provided on the connecting flexible sheet material, preferably opposite the connection part, and wherein the connecting flexible sheet material can also comprise a rigid part. However, it would have been obvious to obtain a component for optical input and/or output is provided on the connecting flexible sheet material, preferably opposite the connection part, and wherein the connecting flexible sheet material can also comprise a rigid part in order to allow the device can be assembled quickly and securely.

Regarding claim 7, Jiang differs from claim 7 in that he does not specifically teach the connection part comprises a housing of an insulating material for accommodating one or more contact elements and wherein the sheets are attached to the housing. However, it would have been obvious to obtain a housing of an insulating

material for accommodating one or more contact elements and wherein the sheets are attached to the housing in order to provide mechanical strength to the entire structure by attaching the sheets to the housing.

Regarding claims 8 and 10, Jiang differs from claims 8 and 10 in that he does not specifically teach the housing comprises building blocks to which a sheet is attached. However, it would have been obvious to obtain the housing comprises building blocks to which a sheet is attached in order to provide mechanical strength to the entire structure by attaching the sheets to the housing and allow the device can be assembled quickly and securely.

Regarding claim 9, referring to Figure 1, Jiang discloses method of making an electro-optical connector module (i.e., fiber optic module 100, Fig. 1) comprising a connection part (i.e., optical block 102, Fig. 1) and at least two substantially flat and substantially parallel electrically insulating sheets (i.e., printed circuit board PCBs 106 and 108, Fig. 1), the method comprises the steps of mounting at least one optical transmitter circuit and/or optical receiver circuit (i.e., transmit printed circuit board PCB 106 and light transmitter 110, and receive printed circuit board PCB 108 and light receiver 111, Fig. 1) and at least one electro-optical converter (i.e., light transmitter 110 and light receiver 111, Fig. 1) for respectively converting electrical signals into optical signals or vice versa on the sheets(col. 3, lines 39-67 and col. 4, lines 1-55).

Jiang differs from claim 9 in that he does not specifically teach the sheets are connected by means of a flexible sheet material and folding the sheets and fixing the position of the sheets with respect to one another. However, it is well known in the art

that two or more rigid sheets attached to a flexible substrate perform semi-rigid printed circuit boards or PCB's and form an integral whole and the components can be attached to the sheets with a maximum of space is available and the sheets can be subsequently be folded to minimize the size of the device. Therefore, it would have been obvious to obtain the sheets are connected by means of a flexible sheet material and folding the sheets and fixing the position of the sheets with respect to one another in order to allow the components can be attached to the sheets with a maximum of space is available and form an integral whole and minimize the size of the device and allow the device has a very compact structure.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sauter et al (US Patent No. 6,056,448) discloses vertical cavity surface emitting laser array packing.

Isaksson et al (US Patent No. 6,130,979) discloses opto-electronic module.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

Hanh Phan

10/06/2003